MACHINE STRUCTURAL PARTS HAVING HIGH PLANE FATIGUE STRENGTH AND ITS PRODUCTION

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Abstract of **JP 7118791 (A)**

PURPOSE:To obtain machine structural steel parts excellent in plane fatigue characteristic by specifying the chemical components of a steel stock and also applying a two-stage induction hardening under respectively specified conditions. CONSTITUTION:A steel stock, having a composition consisting of, by weight, 0.35-0.75% C, 0.05-1.0% Si, 0.3-2.0% Mn, 0.015-0.05% Al, <=0.03% S, <=0.015% P, and the balance essentially Fe, is used. After forging this stock, induction hardening is done with =200KHz frequency to obtain >=0.5mm hardening depth, and then, hardening is done again with <=20OKHz frequency at a maximum ultimate temp. between Ac, and (Ac3+150K) to a hardening depth shallower than that at the time of the first stage hardening, by which carbides are finely dispersed at >=10 surfacegamma-grain size.; By this method, the parts for machine structural use, having high plane fatigue strength, can be obtained.